Elevation correction with NLDAS forcing ...

sujay 118 posts since

Sep 20, 2007 The NLDAS/NLDAS2 forcing used in LIS is already corrected for elevation. So to apply the lapse rate based on the elevation data at a specified resolution, we need to undo the correction at the native resolution of NLDAS first and then apply the elevation correction based on the differences of lis_elev and edas_elev. Please see the NLDAS testcase to see how this works.

This feature is not yet implemented in the NLDAS2 forcing operations. The recommendation is NOT to use elevation correction option if you are using NLDAS2 data.

A note on NLDAS2 from Chuck:

The NLDAS2 forcing is actually two different datasets merged into one. Please see the following documentation containing the details about this new dataset:

http://ldas.gsfc.nasa.gov/nldas2/nldas2forcing.pdf

As outlined in the above document, there are two files for each hour in the 29-year dataset--an A file (this data is currently implemented in LIS5.0 Beta) and a B-File. The B-file contains lowest model level fields (from the North American Regional Reanalysis) fields in addition to several other model based fields (no bias corrected or observed data in these files). The surface temperature, humidity and wind fields are represented not at 2 meters and 10 meters above the height of the NLDAS terrain, but rather at the same height above the NLDAS terrain as the height above the NARR terrain of the lowest prognostic level in the NARR assimilation system. The "forcing height" of this data will vary with the model level of the data.

We are currently working on adding the "B" dataset into LIS right now. This data lends itself to easier elevation correction than the fields in the "A" dataset. Until this feature is fully integrated and tested, I second Sujay's recommendation of NOT using an elevation correction with the NLDAS2 data. Tags: lis, nldas, nldas2, elevation, correction

georgy *3 posts since*
Apr 18, 2008 1. **Re: Elevation correction with NLDAS forcing** Sep 9, 2008 6:58 PM

Hello Sujay,

I run LIS5.0 at 0.1x0.1 lat-lon deg. resolution using the NLDAS forcing over some of the SW states.

I would like to perform an elevation correction, but I don't know how to produce properly a file containing EDAS height map at 0.1x0.1 resolution.

Can I obtain this file applying a bilinear interpolation to the EDAS file available at 0.125x0.125 deg. resolution (edas_elev.1gd4r, which is available in the tescases dir.), for example?

Thanks a lot for your previous help and many thanks in advance,

Georgy

sujay *118 posts since*
Sep 20, 2007 2. **Re: Elevation correction with NLDAS forcing** Sep 15, 2008 3:06 PM

in response to: georgy Georgy,

You could certainly try by interpolating the 0.125 deg data. The best method would be to obtain the EDAS elevation data (from NCEP) and derive other datasets from it.

-S